

JAN 20 2004

**INFORMATION DISCLOSURE STATEMENT
BY APPLICANT**

Attorney Docket Number	6884-66364
Application Number	10/632,495
Filing Date	July 31, 2003
First Named Inventor	Brian K. Aegerter
Art Unit	Not yet assigned
Examiner Name	Not yet assigned

U.S. PATENT DOCUMENTS

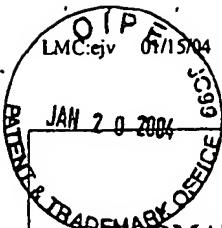
Examiner's Initials*	Cite No. (optional)	Number	Date	Name
L✓		2,443,599	6/1948	Chester
		3,664,933	5/1972	Clauss
		3,716,462	2/1973	Jensen
		3,727,620	4/1973	Orr
		3,770,598	11/1973	Creutz
		3,878,066	4/1975	Dettke et al.
		3,894,918	7/1975	Corby et al.
		3,930,963	1/1976	Polichette et al.
		3,953,265	4/1976	Hood
		4,000,046	12/1976	Weaver
		4,027,686	6/1977	Shortes et al.
		4,092,176	5/1978	Kozai et al.
✓		4,110,176	8/1978	Creutz et al.
		4,113,492	9/1978	Sato et al.
		4,132,567	1/1979	Blackwood
		4,134,802	1/1979	Herr
L✓		4,250,004	2/1981	Miles et al.

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10/12/04

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LV	4,315,059	2/1982	Raistrick et al.
	4,336,114	6/1982	Mayer et al.
	4,376,685	3/1983	Watson
	4,405,416	9/1983	Raistrick et al.
	4,428,815	1/1984	Powell et al.
	4,435,266	3/1984	Johnston
	4,437,928	3/1984	Wong
	4,439,243	3/1984	Titus
	4,439,244	3/1984	Allevato
	4,466,859	8/1984	Nelson
	4,489,740	12/1984	Rattan et al.
	4,510,176	4/1985	Cuthbert et al.
	4,518,678	5/1985	Allen
	4,519,846	5/1985	Aigo
	4,539,222	9/1985	Anderson Jr. et al.
	4,544,446	10/1985	Cady
	4,560,445	12/1985	Hoover et al.
	4,576,689	3/1986	Makkaev et al.
LV	4,664,133	5/1987	Silvernail et al.

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LV	4,687,552	8/1987	Early et al.
	4,693,805	9/1987	Quazi
	4,732,785	3/1988	Brewer
	4,750,505	6/1988	Inuta et al.
	4,779,877	10/1988	Shaw
	4,781,801	11/1988	Frisby
	4,790,262	12/1988	Nakayama et al.
	4,838,289	6/1989	Kottman et al.
	4,891,069	1/1990	Holtzman et al.
	4,903,717	2/1990	Summitsch
	4,959,278	9/1990	Shimauchi et al.
	4,962,049	10/1990	Chang et al.
	4,982,215	1/1991	Matsuoka
	4,982,753	1/1991	Grebinski Jr. et al.
	5,017,271	5/1991	Whewell et al.
	5,020,200	6/1991	Mimakasa et al.
	5,028,513	7/1991	Murakami et al.
	5,032,217	7/1991	Tanaka
LV	5,039,381	8/1991	Mullarkey

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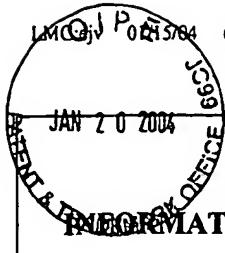
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LV	5,040,484	8/1991	Mears et al.
	5,055,425	10/1991	Leibovitz et al.
	5,075,256	12/1991	Wang et al.
	5,084,412	1/1992	Nakasaki
	5,091,339	2/1992	Carey
	5,115,430	5/1992	Hirai et al.
	5,117,769	6/1992	DeBoer et al.
	5,145,571	9/1992	Lane et al.
	5,151,168	9/1992	Gilton et al.
	5,155,336	10/1992	Gronet et al.
	5,160,600	11/1992	Patel et al.
	5,162,260	11/1992	Leibovitz et al.
	5,164,332	11/1992	Kumar
	5,168,886	12/1992	Thompson et al.
	5,209,180	5/1993	Shoda et al.
	5,209,817	5/1993	Ahmad et al.
	5,222,310	6/1993	Thompson et al.
	5,224,503	7/1993	Thompson et al.
LV	5,224,504	7/1993	Thompson et al.

EXAMINER SIGNATURE: <i>✓</i>	DATE CONSIDERED: <i>10/12/04</i>
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LV	5,230,743	7/1993	Thompson et al.
/	5,249,728	10/1993	Lam
	5,252,807	10/1993	Chizinsky
	5,256,274	10/1993	Poris
	5,259,407	11/1993	Tuchida et al.
	5,277,985	1/1994	Li et al.
	5,290,361	3/1994	Hayashida et al.
	5,298,465	3/1994	Levy
	5,314,756	5/1994	Tagaya
	5,316,802	5/1994	Ebe et al.
	5,316,974	5/1994	Crank
	5,328,589	7/1994	Martin
	5,349,978	9/1994	Sago et al.
	5,361,449	11/1994	Akimoto
	5,368,711	11/1994	Poris
	5,372,848	12/1994	Blackwell et al.
	5,377,708	1/1995	Bergman et al.
	5,397,741	3/1995	O'Connor et al.
LV	5,421,893	6/1995	Perlov

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LV	5,429,733	7/1995	Ishida
1	5,431,421	7/1995	Thompson et al.
	5,431,803	7/1995	DiFranco et al.
	5,441,618	8/1995	Matsuda et al.
	5,445,172	8/1995	Thompson et al.
	5,447,599	9/1995	Li et al.
	5,472,502	12/1995	Lowery
	5,500,081	3/1996	Bergman
	5,508,881	4/1996	Stevens
	5,513,594	5/1996	McClanahan et al.
	5,532,094	7/1996	Arimura et al.
	5,549,808	8/1996	Farooq et al.
	5,551,986	9/1996	Jain
	5,591,262	1/1997	Sago et al.
	5,600,532	2/1997	Michiya et al.
	5,605,615	2/1997	Goolsby et al.
	5,608,943	3/1997	Konishi et al.
	5,612,254	3/1997	Mu et al.
LV	5,616,069	4/1997	Walker et al.

EXAMINER SIGNATURE: <i>VL</i>	DATE CONSIDERED: <i>1/12/05</i>
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LV	5,625,170	4/1997	Poris
	5,627,102	5/1997	Shinriki et al.
	5,639,316	6/1997	Cabral Jr. et al.
	5,651,823	7/1997	Parodi et al.
	5,651,865	7/1997	Sellers
	5,666,985	9/1997	Smith Jr. et al.
	5,674,787	10/1997	Zhao et al.
	5,677,244	10/1997	Venkatraman
	5,677,824	10/1997	Harashima et al.
	5,678,116	10/1997	Sugimoto et al.
	5,693,563	12/1997	Teong
	5,705,223	1/1998	Bunkofske
	5,707,466	1/1998	Atwater et al.
	5,718,763	2/1998	Tateyama et al.
	5,718,813	2/1998	Drummond et al.
	5,723,028	3/1998	Poris
	5,733,024	3/1998	Slocum et al.
	5,747,355	5/1998	Konuma et al.
LV	5,762,708	6/1998	Motoda et al.

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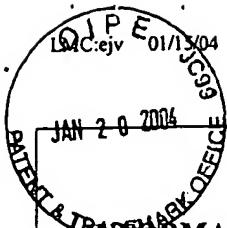


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LV	5,762,751	6/1998	Bleck et al.
/	5,763,953	6/1998	Iijima et al.
	5,766,499	6/1998	Blackwell et al.
	5,779,796	7/1998	Tomoeda et al.
	5,779,799	7/1998	Davis
	5,801,444	9/1998	Aboelfotoh et al.
	5,807,493	9/1998	Maki et al.
	5,814,557	9/1998	Venkatraman et al.
	5,815,762	9/1998	Sakai et al.
	5,845,662	12/1998	Sumnitsch
	5,860,640	1/1999	Marohl et al.
	5,868,866	2/1999	Maekawa et al.
	5,873,992	2/1999	Glezen et al.
	5,882,433	3/1999	Ueno
	5,882,498	3/1999	Dubin et al.
	5,885,476	3/1999	Hong et al.
	5,885,755	3/1999	Nakagawa et al.
J	5,890,269	4/1999	Gardner et al.
LV	5,893,752	4/1999	Zhang et al.

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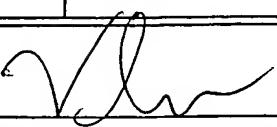
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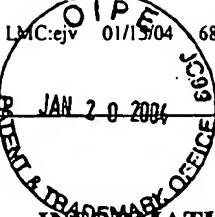
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LV	5,908,543	6/1999	Matsunami et al.
	5,916,366	6/1999	Ueyama et al.
	5,932,077	8/1999	Reynolds
	5,937,142	8/1999	Moslehi et al.
	5,939,788	8/1999	McTeer
	5,942,035	8/1999	Hasebe et al.
	5,944,894	8/1999	Kitano et al.
	5,952,050	9/1999	Doan
	5,964,954	10/1999	Matsukawa et al.
	5,965,036	10/1999	Maki et al.
	5,969,422	10/1999	Ting et al.
	5,969,424	10/1999	Matsuki et al.
	5,972,192	10/1999	Dubin et al.
	5,989,623	11/1999	Chen et al.
	5,997,653	12/1999	Yamasaka
	6,001,730	12/1999	Farkas et al.
	6,015,749	1/2000	Liu et al.
	6,036,836	3/2000	Peeters et al.
LV	6,037,257	3/2000	Chiang et al.

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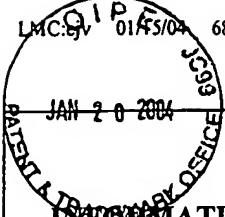
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LV	6,043,153	3/2000	Nogami et al.
	6,059,985	5/2000	Yoshimura et al.
	6,066,892	5/2000	Ding et al.
	6,072,163	6/2000	Armstrong et al.
	6,074,544	6/2000	Reid et al.
	6,099,712	8/2000	Ritzdorf et al.
	6,100,195	8/2000	Chan et al.
	6,113,771	9/2000	Landau et al.
	6,121,141	9/2000	Woo et al.
	6,123,825	9/2000	Uzoh et al.
	6,126,761	10/2000	DeHaven et al.
	6,126,989	10/2000	Robinson et al.
	6,136,163	10/2000	Cheung et al.
	6,139,639	10/2000	Kitamura et al.
	6,139,697	10/2000	Chen et al.
	6,184,121	2/2001	Buchwalter et al.
	6,184,137	2/2001	Ding et al.
	6,228,768	5/2001	Woo et al.
LV	6,254,758	7/2001	Koyama

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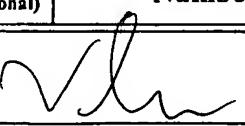
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UV	6,255,228	7/2001	Rolfson
	6,264,752	7/2001	Curtis et al.
	6,268,289	7/2001	Chowdhury et al.
	6,278,089	8/2001	Young et al.
	6,280,183	8/2001	Mayur et al.
	6,290,833	9/2001	Chen
	6,297,154	10/2001	Gross et al.
	6,309,981	10/2001	Mayer et al.
	6,318,385	11/2001	Curtis et al.
	2001/0041447	11/2001	Nogami
	6,331,490	12/2001	Stevens et al.
	6,350,319	2/2002	Curtis et al.
	6,413,436	7/2002	Aegerter et al.
	6,423,642	7/2002	Peace et al.
	6,446,643	9/2002	Curtis et al.
	6,508,920	1/2003	Ritzdorf et al.
CV	6,632,292	10/2003	Aegerter et al.

FOREIGN PATENT DOCUMENTS

Examiner's Initials*	Cite No. (optional)	Number	Date	Country
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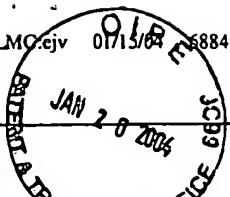
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	0 881 673	12/1998	EP
	0 982 771	3/2000	EP
	2 184 288	6/1987	GB
	58-182823	10/1983	JP
	59-208831	11/1984	JP
	60-137016A	7/1985	JP
	60-137016	7/1985	JP
	61-196534	8/1986	JP
	61-196534A	8/1986	JP
	62-166515	7/1987	JP
	63-118093	5/1988	JP
	63-185029	7/1988	JP
	1-120023	5/1989	JP
	1-283845	11/1989	JP
	4-94537	3/1992	JP
	4-131395	5/1992	JP
	4-280993	10/1992	JP
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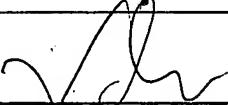
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LV	5-13322	1/1993	JP
	5-326483	12/1993	JP
	6-17291	1/1994	JP
	6-45302	2/1994	JP
	52-12576	1/1997	JP
	1-283845	11/1999	JP
	WO 97/12079	4/1997	WIPO
	WO 98/27585	6/1998	WIPO
	WO 99/46064	9/1999	WIPO
LV	WO 99/46065	9/1999	WIPO

Examiner's Initials*	Cite No. (optional)	OTHER DOCUMENTS
LV		Ahn, E.C., et al., "Adhesion Reliability of Cu-Cr Alloy Films To Polyimide," Met. Res. Soc. Symp. Proc. Vol. 427, 1996 Materials Research Society, pp. 141-145.
LV		Alers, G.B. et al., "Trade-off between reliability and post-CMP defects during recrystallization anneal for copper damascene interconnects," IEEE International Reliability Physics Symposium, Orlando, Florida 2001, pp. 350-354.
LV		Bunshah et al., Deposition Technologies for Films and Coatings Developments and Applications, Noyes Publications, Park Ridge , NJ, USA, pp. 2-3, 1982.
LV		Gladkikh, A. et. al., "Activation Energy of Electromigration in Copper Thin Film Conductor Lines," Met. Res. Soc. Symp. Proc. 1996 Materials Research Society, pp. 121-133.
LV		Russell, S.W. et al., "The Effect of Copper on the Titanium-Silicon Dioxide Reaction and the Implications for Self-Encapsulating, Self-Adhering Metallization Lines," Materials Research Society Symposium vol. 260--Advanced Metallization and Processing for Semiconductor Devices and Circuits--II (May 1992) pp. 763-769.

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<i>LV</i>		Mel, Yu-Jane et al., "Thermal Stability and Interaction Between SiOF and Cu Film," Met. Res. Soc. Symp. Proc. vol. 427, 1996 Materials Research Society, pp. 433-439.	
		Lucio Columbo, "Wafer Back Surface Film Removal," Central R&D, SGS-Thompson, Microelectronics, Agrate, Italy, 6 pages. No date available.	
		Semitool, Inc..COPYRGT., "Metallization & Interconnect," 1998, 4 pages. Month of publication not available.	
		Verteq Online.COPYRGT., "Products Overview," 1996-1998, 5 pages. Month of publication not available.	
		Laurell Technologies Corporation, "Two control configurations available--see WS 400 or WS-400Lite." Oct. 19, 1998, 6 pages.	
		Peter Singer, "Tantalum, Copper Damascene: The Future of Interconnects," Semiconductor International, Jun., 1998, pp.: cover, 91-92, 94, 96 and 98.	
		Peter Singer, "Wafer Processing," Semiconductor International, Jun., 1998, p. 70.	
<i>LV</i>		Kenneth E. Pitney, "NEY Contact Manual," Electrical Contacts for Low Energy Uses, 1973. Month of publication not available.	

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